

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
7 December 2000 (07.12.2000)

PCT

(10) International Publication Number  
**WO 00/72876 A3**

(51) International Patent Classification<sup>7</sup>: **A61K 39/00**,  
39/385, 39/39, G01N 33/68, A61K 39/395, 48/00, A61P  
25/28

(21) International Application Number: PCT/US00/15239

(22) International Filing Date: 1 June 2000 (01.06.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/137,010 1 June 1999 (01.06.1999) US

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AT  
(utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH,  
CN, CR, CU, CZ, CZ (utility model), DE, DE (utility  
model), DK, DK (utility model), DM, DZ, EE, EE (utility  
model), ES, FI, FI (utility model), GB, GD, GE, GH, GM,  
HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KR (utility  
model), KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,  
MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,  
SG, SI, SK, SK (utility model), SL, TJ, TM, TR, TT, TZ,  
UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European  
patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,  
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— With international search report.

(88) Date of publication of the international search report:  
3 May 2001

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.



WO 00/72876 A3

(54) Title: PREVENTION AND TREATMENT OF AMYLOIDOGENIC DISEASE

(57) Abstract: Disclosed are pharmaceutical compositions and methods for preventing or treating a number of amyloid diseases, including Alzheimer's disease, prion diseases, familial amyloid neuropathies and the like. The pharmaceutical compositions include immunologically reactive amounts of amyloid fibril components, particularly fibril-forming peptides or proteins. Also disclosed are therapeutic compositions and methods which use immune reagents that react with such fibril components.

# INTERNATIONAL SEARCH REPORT

Internat. Application No

PCT/US 00/15239

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WEN, G.Y.: "Alzheimer's disease and risk factors"  JOURNAL OF FOOD AND DRUG ANALYSIS 'J. FOOD  DRUG ANAL.', ( 19980600 ) VOL. 6, NO. 2,  PP. 465-476. ISSN: 1021-9498.,  XP000971061  New York State Institute for Basic  Research in Developmental Disabilities,  1050 Forest Hill Road, Staten Island, NY  10314, USA  the whole document</p>	1-57
A	<p>SCHENK DALE B ET AL: "Therapeutic  approaches related to amyloid-beta peptide  and Alzheimer's disease."  JOURNAL OF MEDICINAL CHEMISTRY,  vol. 38, no. 21, 1995, pages 4141-4154,  XP000971009  ISSN: 0022-2623  page 4142, left-hand column, paragraph 1  -right-hand column, paragraph 2  figure 2</p>	1-57
A	<p>SOUTHWICK PAULA C ET AL: "Assessment of  amyloid beta protein in cerebrospinal  fluid as an aid in the diagnosis of  Alzheimer's disease."  JOURNAL OF NEUROCHEMISTRY,  vol. 66, no. 1, 1996, pages 259-265,  XP000971063  ISSN: 0022-3042  page 264, right-hand column, paragraph 5</p>	26-28
P,X	<p>WO 99 27944 A (ATHENA NEUROSCIENCES, INC.,  USA) 10 June 1999 (1999-06-10)  examples  claims</p>	1-57
E	<p>WO 00 43039 A (DURING MATTHEW JOHN)  27 July 2000 (2000-07-27)  page 2, line 30 -page 3, line 30  page 15, line 21 -page 16, line 11  claims</p>	1-25, 29-57
T	<p>HELMUTH, L.: "Further progress on a beta  -amyloid vaccine"  SCIENCE (WASHINGTON) 'SCIENCE (WASH.)',  (20000721) VOL. 289, NO. 5478, P. 375.  ISSN: 0036-8075.,  XP002154517  the whole document</p>	1-25

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# INTERNATIONAL SEARCH REPORT

Internal Application No

PCT/US 00/15239

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T	<p>BARD F ET AL: "Peripherally administered antibodies against amyloid beta- peptide enter the central nervous system and reduce pathology in a mouse model of Alzheimer disease."</p> <p>NATURE MEDICINE, (2000 AUG) 6 (8) 916-9. , XP002154518</p> <p>the whole document -----</p>	29-57

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Internal Application No

PCT/US 00/15239

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9531996 A	30-11-1995	AU 686818 B	12-02-1998
		AU 2651995 A	18-12-1995
		CA 2191101 A	30-11-1995
		EP 0760676 A	12-03-1997
		JP 3064013 B	12-07-2000
		JP 9510732 T	28-10-1997
		US 5851996 A	22-12-1998
		US 5753624 A	19-05-1998
US 5441870 A	15-08-1995	AU 688726 B	19-03-1998
		AU 3782793 A	18-11-1993
		EP 0638172 A	15-02-1995
		FI 944847 A	14-10-1994
		JP 7506967 T	03-08-1995
		NO 943912 A	10-11-1994
		NZ 251053 A	26-11-1996
		WO 9321526 A	28-10-1993
		US 5604102 A	18-02-1997
		US 5605811 A	25-02-1997
		US 5721130 A	24-02-1998
		US 6018024 A	25-01-2000
WO 9927944 A	10-06-1999	BR 9815357 A	24-10-2000
		EP 1033996 A	13-09-2000
		NO 20002784 A	31-07-2000
		AU 1706199 A	16-06-1999
WO 0043039 A	27-07-2000	AU 2861000 A	07-08-2000

# INTERNATIONAL SEARCH REPORT

Internal Application No  
PCT/US 00/15239

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K39/00 A61K39/385 A61K39/39 G01N33/68 A61K39/395  
A61K48/00 A61P25/28

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

MEDLINE, LIFESCIENCES, EMBASE, CHEM ABS Data, SCISEARCH, BIOSIS, EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 95 31996 A (MILKHAUS LAB) 30 November 1995 (1995-11-30) page 9, line 1-13 page 10, line 27 -page 12, line 15 examples 1,7,8,13-15 ---	1-25
A	US 5 441 870 A (SCHENK DALE B ET AL) 15 August 1995 (1995-08-15) column 3, line 61 -column 4, line 39 claims --- -/--	26-28

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- \*P\* document published prior to the international filing date but later than the priority date claimed

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- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

4 December 2000

Date of mailing of the international search report

22/12/2000

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